

REMARKS

Introduction

This application has been reviewed in light of the Office Action dated May 5, 2009. Claims 1-28 are pending in this application, with claims 1, 14, 23, and 24 being in independent form. Claims 1, 3, 12-14, 16, and 18 have been amended to define still more clearly what Applicant regards as the invention; these changes have been made for the purposes of clarification only, and no change in scope of the claims is either intended or believed to be effected by the changes.

The prior art rejections

Claims 1, 14, 16, 17, 21, 23, and 24 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 1,965,866 to Tolman¹. Claims 2 and 15 were rejected under 35 U.S.C. § 103(a) as being obvious from Tolman in view of British Document GB 288862 (hereinafter GB '862); claims 3 and 22, as being obvious from Tolman in view of U.S. Patent No. 6,974,279 to Morohashi; claims 4-11, 13, and 18-20, 26, and 27, as being obvious from Tolman in view of EPO Document EP 1179682 A2 (hereinafter '682) and Morohashi; and claim 12, as being obvious from Tolman in view of Morohashi and JP 9301504 (hereinafter '504).

Applicant submits that independent claims 1, 14, 23, and 24, together with the claims dependent therefrom, are patentably distinct from the cited references for at least the

¹Paragraph 7 of the Office Action does not list claims 23 and 24 as being rejected over Tolman; however, since paragraph 13 makes out rejections of claims 23 and 24, it is presumed that the Examiner meant to list claims 23 and 24 as also being rejected over Tolman.

following reasons.

Claim 1 for example is directed to a method for conveying material by means of a pressure difference in a conveying pipe (4). In the method the material is fed to the conveying pipe (4), and further in the conveying pipe (4) to a separator device (5) in which the transferred material is separated from conveying air, underpressure being achieved to the conveying pipe (4) with an ejector apparatus (6) the suction side of which is combined with the separator device (5). The ejector apparatus (6) is operated with an actuating medium, wherein liquid mist is utilized as the actuating medium.

In the previous Amendment Applicant argued, *inter alia*, on pages 18-19:

Tolman not disclose a method and apparatus for conveying material according to the present invention, but, rather, a special steam jet air exhaustor operating conveyer. A notable difference between the claimed liquid mist ejector and the steam jet air exhaustor of Tolman is that one liter of mist corresponds to 1700 liters of steam. Further, the same volume of liquid, i.e., the mist claimed, is much more efficient in generating suction/vacuum in the ejector device. Claim 1, for example, recites that the ejector apparatus is operated with an actuating medium, wherein liquid mist is utilized as the actuating medium. Nothing in Tolman would teach or suggest this feature. And it would not have been obvious for a person skilled in the art to reach the liquid mist ejector of the present invention on the basis of the Tolman patent. Mist is not steam.

Moreover, special means are needed for producing steam (which is of course hot). Producing steam does not save – rather it increases – use of energy. Steam also is difficult to conduct, because special valves and sealings are needed in the piping due to the heat.

Furthermore, in Tolman, there are further sprays for washing the air in the chamber 10. Applicant assumes that these sprays are also needed for cooling the hot steam from the steam exhaustor.

Accordingly, Tolman does not teach, and it would not be obvious for a person skilled in the art, to use liquid mist as in the method and apparatus according to the claimed invention.

Applicant also noted various advantages of utilizing mist as the actuating medium (referring for example to pages 3 and 4 of the present specification).²

In reply to this the Examiner states at paragraph 4 of the Office Action that Applicant's arguments are not persuasive for the following reasons:

Applicant argues, on Pages 18-19, that steam does not meet the limitations of a liquid mist. However, Webster's New Basic Dictionary defines mist as "water vapor that condenses" and further defines steam as "the mist that forms when hot water vapor cools and condenses." Therefore, one of ordinary skill would consider steam to be a liquid mist.

Accordingly, the Examiner asserts that a person having ordinary skill in the art "would consider steam to be a liquid mist." However, Applicant respectfully submits that this assertion by the Examiner (i.e., the Examiner's interpretation of "mist" in the claimed invention and "steam" in Tolman) is incorrect.

Applicant submits that *water mist is not steam*. Steam is vaporized water. It is an invisible gas. Steam has the same problems as pneumatic ejectors mentioned in the description of the present application and further additional problems relating to the high temperature of the steam.

The inventor of the present application is Mr. Göran Sundholm. Mr. Sundholm has over 90 granted U.S. patents. Many of his patented inventions relate to water mist fire fighting methods, systems, and components. In the present patent application the terminology relating to liquid mist (water mist) emanates from fire fighting technology. There are standards in fire fighting technology that define different extinguishing mediums.

²It is of course to be understood that the references to various portions of the present application are by way of illustration and example only, and that the claims are not limited by the details shown in the portions referred to.

Water Mist is defined in NFPA 750 Standard on Water Mist Protection Systems as a water spray for which the Dv0.99, for the flow-weighted cumulative volumetric distribution of water droplets, is less than 1000 microns at the minimum design operating pressure of the water mist nozzle. Moreover, the typical drop size (Dv90) is defined in the description of the present patent application, as well as various typical pressures. See, e.g., page 17, lines 22-30 of the present application, which states:

By utilising aqueous liquid as the actuating medium and by spraying liquid mist, an extremely efficient solution for an ejector device is achieved. Typically, the drop size (Dv 90) of liquid mist is below 200 micrometres. The actuating medium may be sprayed, if desired, with high pressure, advantageously 10-300 bar, and in some cases also lower pressures are possible. Compared to a pneumatic ejector, up to 50% saving in energy requirements is achieved. In addition, the lifetime of the system is considerably longer than the ones of vacuum pumps which have also been utilised for achieving underpressure.

Since a person having ordinary skill in the art would understand that mist is not steam, nothing in Tolman would teach or suggest the claimed invention. Special means are needed for producing steam, which is hot, and producing steam *increases* use of energy, rather than *saving* such.

Finally, Applicant notes that the European Patent Office (EPO) on August 5, 2009 issued a Communication of intention to grant a patent to the corresponding European application. Submitted herewith is a copy of that Communication along with a copy of the granted claims and the most recent arguments in favor of patentability that were accepted by the EPO. It is noted that all five references D1 to D5 are of record in the subject U.S. application.

For at least the foregoing reasons, independent claims 1, 14, 23, and 24, and the claims dependent therefrom, are seen to be clearly allowable over the cited references.

The dependent claims

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration or reconsideration, as the case may be, of the patentability of each on its own merits is respectfully requested.

The double patenting rejection

Also in the Office Action, claims 4-13 and 18-22 were *provisionally* rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22 of copending Application No. 10/591,302.

It is noted that the provisional double patenting rejection is not the only rejection remaining in either of these two applications. Accordingly, Applicant will address this issue at the appropriate time.

Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Respectfully submitted,

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